

**LESSONS ON DEMAND: ORDER AND PROGRESS  
FOR SMALL FIRMS IN CEARÁ, BRAZIL**

by

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## LIST OF ACRONYMS

PPP - Public Procurement Program

FIEC - Ceará Business Association (Federação das Indústrias do Estado do Ceará)

GAC - Community Action Group (Grupo de Ação Comunitária)

NUTEC - Ceará Institute of Technology (Fundação Núcleo de Tecnologia Industrial do Ceará)

SIC - Industry and Commerce State Department (Secretaria de Indústria e Comércio do Estado do Ceará)

SEBRAE - Agency to Support Small and Medium Firms (Serviço Brasileiro de Apoio as Micro e Pequenas Empresas)

SENAI - National Service for Industry (Serviço Nacional da Indústria)

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**ABSTRACT**

This thesis evaluates a program to foster small firms in the state of Ceará, Brazil. The program attempts to switch public procurement toward small local firms. The state government of Ceará started the program during a severe drought, in 1987, also a time of fiscal stringency. Rather than requiring extra resources, the program has allowed the state to save money, as small firms usually charged 30% lower than the price charged by former state suppliers--larger firms, most of them located outside the state. By imposing quality standards as a requirement to purchase from small firms, the program has been able to launch these firms into private markets. Even having a demand-side approach, the program also assists the firms with focused technical assistance in order to allow firms to meet quality standards. Although the technical assistance focus on specific items ordered by public agencies, firms have been able to use the learning to improve the quality of other items they sell to private markets. As a consequence, firms are able to compete better in the private market.

When the state government has concentrated the purchases of specific item in the same locality, the program has been able to generate multiple linkages, so that other related activities also expand, as a consequence of the growth of the firms that sell to the government. Nevertheless, as the state government has diffused the purchases throughout the state, these linkages tend to disappear, and as a consequence, the state government loses a major chance to expand the impact of the program. In this study, I emphasize this as a lesson that the state government has not learned, given that it has continuously diffused the purchases among several different areas of the state.

Thesis Supervisor: Judith Tendler  
Title: Professor of Political Economy

## **CHAPTER ONE**

### **INTRODUCTION**

In the past two decades an increasing amount of research has focused on which policies governments should pursue to support small firms in developing countries (Schmitz 1990, Tandler 1983, 1987, 1989, Anderson 1982). Microenterprise programs have become popular, partially because policy makers see them as a strategy to generate the jobs that both government and large private enterprises have not been able to create, so as to absorb the expanding labor force. Promotion of small business arises as a handy policy to create earning opportunities for the growing work force. In Latin America, for instance, both rapid urbanization, resulting from an intense process of rural-urban migration, and austerity measures imposed by structural adjustment programs have created severe unemployment. In many countries, government or NGO's have actively pushed for policies supporting small firms on the grounds that they improve employment, generate income, promote entrepreneurship, and enhance the supply of affordable wage-goods such as food, garments, and footwear (Berry and Mazumdar 1991).

The standard type of small firm program frequently and simultaneously includes credit, technical and managerial assistance, and in certain cases, marketing support. These integrated projects are based on the idea that small firms lack several kinds of support, and that an "integrated" approach would fit their needs best. The firms supported under such programs usually use subsidized credit and in many cases they do

not "graduate" to the stage where they no longer need subsidized credit (Biggs et al. 1990). Moreover, in developing countries, programs to support small firms often focus on the firm itself and have few connections with macroeconomic policy (Fuhr and Spath 1989). As a result, these programs are seldom conceived as a tool of economic progress and are not part of a broader development strategy, as has happened in Italy, Japan and Germany (Piore and Sabel 1984).

Recent assessments of small firm programs (Tendler 1989, Kilby and D'Zumera 1985) have shown that sometimes these programs bring about interesting results, but they rarely reach a large group of beneficiaries.<sup>1</sup> In contrast, successful small firm programs that have reached a large number of people share a set of features that, surprisingly, do not match with those of the standard models now in vogue. As Tendler (1989) emphasizes, successful programs have focused on narrow tasks; they usually have a marketing component, e.g. secure sales markets for the firms' production; continued assistance from the government is contingent upon good performance, which disciplines the beneficiaries to perform well; they elicit the support of powerful consumers; and their leadership is often connected to influential institutions such as banks.

Programs to assist small firms can typically approach the issue either from the supply side, the demand side, or a combination of both (Tendler 1991). Supply-side policies relate to the provision (simultaneous or isolated) of different inputs such as credit, training, technical and managerial assistance, development of appropriate

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<sup>1</sup> Some exceptions are the Grameen Bank, in Bangladesh, and the Badan Kredit Kecamatan - BKK, of Central Java in Indonesia.

technology, deregulation of industries, or even means to improve working conditions. Demand-side policies attempt to enlarge the market for the firms' production by encouraging different sectors of demand--private consumers, private sector firms, and the public sector--to buy from small firms. Most small firm programs rely on supply-side strategies; experiences based on demand-side policies are less common (Tendler 1991, Sanyal 1992).

This study focuses on a small firm program based on public procurement carried out by the state government of Ceará, in Northeast Brazil.<sup>2</sup> The program has a major demand-side component. Yet, one ingredient of supply-side policy--technical assistance--has also played a crucial role in enabling firms to improve the quality of their products, and ultimately becoming competitive in the private market.

The Public Procurement Program (Programa de Compras Governamentais), hereafter PPP, is worth studying because it presents several impressive characteristics which I describe below.

First, the public sector implemented it at a time of fiscal stringency, with no foreign donors, as a strategy to reduce public spending related to purchases of goods and services. Rather than demanding subsidies and extra resources from the government to assist small firms, the PPP did the opposite: it helped the state to save money by purchasing from small firms. Thus, in this period of austerity, understanding how such a program works is crucial.

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<sup>2</sup>Small firms refer to those engaged in manufacturing or in the service sectors, formal or informal, with up to 100 workers. This definition corresponds to the one currently used by Fundação Instituto Brasileiro de Geografia e Estatística-FIBGE (Brazilian Institute of Geography and Statistics).



Second, it started during an emergency situation (the 1987 drought), when the Ceará state government was under pressure to create jobs for unskilled rural people affected by the drought. Again, this is unique because most programs to support small firms are not constrained by deadlines.

Third, the PPP required the fulfillment of strict quality standards, as a condition for public sector purchases from small firms. This is also surprising because most small firm programs do not require firms to improve the quality of their products. In addition to purchasing from small firms, the program provided them with focused technical assistance, which allowed the firms to overcome their specific technical problems. Focused technical assistance required the technicians to closely supervise the production and concentrate efforts on specific orders.

Fourth, the PPP started out as a one-time project, rather than the usual on-going programs. However, it has expanded since 1989 into a much larger, more permanent program to the point that the state government now makes a significant part of its purchases--approximately 30%--from small firms.<sup>3</sup>

Finally, the program has demonstrated that public procurement policies can foster development in backward areas. When the government targeted orders to an agglomeration of firms that are already engaged in the activity supported by the program, a set of linkages naturally emerged.

Since the PPP started in 1987, different agencies belonging either to the state government or to the city of Fortaleza (capital city) have purchased around 500,000

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<sup>3</sup> According to information from SIC.

items (see Table 1) from small firms located in Ceará. Purchases include school desks, wood furniture, grain silos, poles for electrification, boots and uniforms for the state police, gloves for electricians, as well as fixing of equipment (televisions, VCR's, etc) and buildings. Besides these items, the state also procured beds and accessories (steps, and night tables) for public health centers and hospitals. More than 200 small firms have signed 550 contracts with the government to repair public buildings, and another 100 small firms have fixed more than 5,000 pieces of equipment such as televisions, video cassette recorders, drinking fountains, refrigerators, and sterilizers for public agencies. In total, sales from the PPP have yielded small firms around US \$15 million in the last four years.<sup>4</sup> Before the PPP the small firms in Ceará had seldom sold their products to the state government agencies.

Table 1

**CEARÁ: 1989-1991**  
**Purchases Through the Public Procurement Program**

| <b>Item</b>           | <b>Quantity</b> | <b>Value (US \$million)*</b> |
|-----------------------|-----------------|------------------------------|
| School Desks          | 400,000         | 6,5                          |
| Other Furniture       | 20,000          | 1,8                          |
| Grain Silos           | 20,140          | 0,6                          |
| Repairs of Equipments | 4,911           | 0,1                          |
| Repairs of Buildings  | 526             | 3,5                          |
| Electrification Poles | 500             | 0,1                          |
| Miscellaneous         | -               | 2,4                          |
| <b>Total</b>          | -               | 15,0                         |

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<sup>4</sup> As a comparison, the integrated rural development (IRD) program implemented by the World Bank in the Northeast--one of the Bank's most comprehensive IRD programs--spent US \$16.7 million in irrigation in Ceará, over a period of ten years.

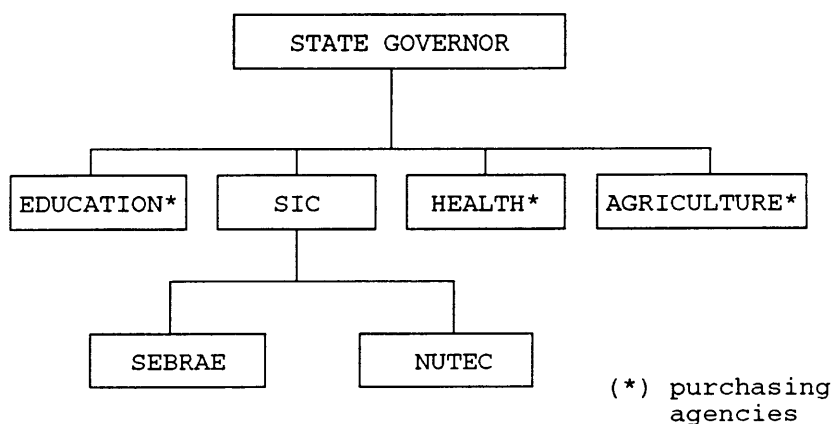
Source: SEBRAE, Ceará.

\* US \$1,00 = Cr\$ 3,300,00 in June, 1992.

The two main agencies which implemented the PPP were (see the organizational chart): (i) The head agency, SIC (Secretaria de Indústria e Comércio do Ceará or state Department of Industry and Commerce) in charge of implementing the state industrial policy and directly subordinated to the state governor; and (ii) SEBRAE (Serviço Brasileiro de Apoio as Micro e Pequenas Empresas) a semi-autonomous agency, although largely dependent on SIC's contributions.<sup>5</sup> SEBRAE has a history of more than twenty years in supporting small and medium firms with managerial and technical assistance. In the last five years, SEBRAE has strengthened its alliance with SIC in an attempt to make up for a drop in resources from other sources.

## PUBLIC PROCUREMENT PROGRAM

### ORGANIZATIONAL CHART



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<sup>5</sup> SEBRAE's statute states that the head of SIC has a permanent seat in SEBRAE's administration board. Although that does not explicitly imply a financial contribution, in the last five years SIC has increased its funding to SEBRAE to a point that it now pays around 70% of SEBRAE's total payroll expenditures. In the past SEBRAE used to receive fundings from other agencies, e.g. the Brazilian Northeast Bank (BNB), the Regional Development Agency (SUDENE), and Industry and Commerce Ministry; all of them have ceased or reduced to a minimum their contribution to SEBRAE.

In the PPP, SIC plays the role of a broker, identifying the demands of other public agencies and encouraging them to purchase from small firms. After negotiating prices and delivery schedules, SIC signs a contract with each purchasing agency which are state agencies such as the Education Department, Agriculture Department, etc. SIC then requests that SEBRAE organize the production scheme among the small firms. SEBRAE selects the firms to produce the order described in the contract, provides them with technical assistance in order to ensure good quality, collects the products, and administers payments to the firms involved. Sometimes, SEBRAE requested that NUTEC, a state agency in charge of developing appropriate technology for local firms, work on specific problems related to technology, such as in the case of the electricity poles and in the grain silos.

### **Methodology**

This study is based on approximately 82 open-ended interviews in Ceará. I interviewed 43 owners of small firms, 10 workers from small firms in the manufacturing or service sectors, 17 civil servants and government officials, three mayors, and nine local leaders involved in associations of firms, a mother's club, and neighborhood associations. Over a period of three months, from June to August of 1992, I conducted the fieldwork in Ceará, visiting seven municípios in which the PPP has operated: Morada Nova, Quixeramobim, Sobral, Juazeiro do Norte, Crato, Missão

Velha, and Campos Sales.<sup>6</sup> I chose these municípios because the firms located there participated in around 70% of all PPP's contracts of purchases of goods and services. The above municípios did not necessarily produce the same items. For example, Morada Nova, Sobral, and Quixeramobim manufactured most of the school desks and similar items; Campos Sales and Missão Velha produced the majority of silos; and Sobral, Juazeiro, and Missão Velha held most of the contracts for electric poles.

I also reviewed past agency policies, and SIC's planning documents, as well as the literature on small firms and the informal sector, poverty alleviation, and industrial policies in developing countries. I benefitted from secondary data from SIC and FIBGE (Fundação Instituto Brasileiro de Geografia e Estatística or Brazilian Institute of Geography and Statistics). I have also benefitted from discussions with seven other colleagues who were conducting similar studies on successful programs in Ceará.

I have organized the paper as follows. In the second chapter, I explain how the program started out and how it differed from previous attempts by the state government to support small firms. In the third chapter, I explain how the PPP was able to generate second-order impacts when SIC concentrated government orders in a specific location. In the fourth chapter, I discuss how SIC induced public agencies to shift their procurement toward small firms, and how the program disciplined firms to achieve good performance. In chapter five, I explain how focused technical assistance helped firms produce quality items, and how producer associations reinforced good performance. In

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<sup>6</sup> Município in the Brazilian political system is the next subdivision after the state, similar to a U.S. county. It has political and administrative autonomy, and in most cases has an urban center, as well as a rural area. Every four years the population elects a new mayor and councilors. In the year of 1992 the state of Ceará had 178 municípios.

chapter six, I show the sources of resistance against the program, and detail how SIC was able to overcome them. Lastly, in the conclusion, I draw lessons for public policy from my main findings.

## CHAPTER TWO

### ANTECEDENTS OF THE PPP: DROUGHT AS ORIGIN

Ceará is one of the nine states in the Northeast, one of the poorest regions in Brazil. It is approximately half the size of Texas (145,694 Km<sup>2</sup>), and its population totalled 6,3 million inhabitants in 1991. The agriculture sector produces around 13% of the state GDP while absorbing 36% of the employed population.<sup>7</sup> The industrial sector employs 21% of the employed population and produces 25% of the state GDP, while in the services sector, 43% of the employed population contributes to 61% of the state GDP. Around 85% of Ceará's industrial firms have less than 20 workers. Ceará is one of the poorest states in the country; its per capita GDP does not reach half of Brazil's (US \$2,800 in 1991), and with almost 5% of Brazil's population, it produces only 3% of the Brazilian GDP (roughly US \$300 billion in 1990). Nearly 55% of Ceará's employed population earns the minimum wage or less. Almost 90% of the state territory is situated in the semi-arid area, so that periodic drought is a major problem, especially because of its implications in terms of unemployment and under-employment in the agriculture-based portion of its economy (see Table 2).

The government of Ceará had traditionally been inefficient and clientelistic. Until 1986, three "colonels" had alternatively governed the state.<sup>8</sup> During the colonel's governorship, public investments and projects such as dams, roads, schools and health

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<sup>7</sup> These figures refer to a seven year period, from 1984 to 1990.

<sup>8</sup> Colonels are large land owners who form the rural elite in the Northeast. They act like feudal barons, and had great influence in the region's political domain. For more details about them see Johnson (1971).

care, often benefitted colonels' allies. Governments hired civil servants without competitive examination at the behest of powerful local politicians. Colonel domination had left Ceará in bad shape; by the mid-1980s, roads, schools and hospitals were falling apart due to absence of maintenance; payments to government suppliers and to civil servants were usually delayed about three months.

**Table 2**

**BRAZIL, NORTHEAST and CEARÁ - 1980-89  
Unemployment\* and Invisible Under-employment\*\***

| Region    | Unemployment (%) |      | Invisible Under-employment (%) |      |
|-----------|------------------|------|--------------------------------|------|
|           | 1980             | 1989 | 1980                           | 1989 |
| Brazil    | 2.23             | 3.02 | 39.3                           | 35.1 |
| Northeast | 2.92             | 3.24 | 67.6                           | 56.8 |
| Ceará     | 2.61             | 2.66 | 70.9                           | 63.7 |

Source: FIBGE - 1980 Census, and PNAD 1980, 1989.

(\*) Job seekers out of work, as a percentage of the economically active population.

(\*\*) Workers working involuntarily less hours than the standard working week and earning less than the minimum wage, as a percentage of the economically active population.

The year of 1987 brought two major turning points for the state's economy: (a) a new elected governor, Tasso Jereissati, who brought a modern vision to public administration, and (b) a severe drought. Jereissati was elected after running for the party which was in power both in the state and at the federal level, Brazilian Democratic Movement Party (PMDB). Later on, however, he joined the Brazilian Social Democratic Party--PSDB--a new progressive force that captured an important foothold with the opening up of democracy. Jereissati was a business magnate and member of Ceará's new industrial elite, a group of entrepreneurs with industrially-based economic interests. He decided to manage the state government like a business,



enforcing efficiency and austerity. When Jereissati took office, the state finances were in disarray--monthly tax revenues could only pay for 70% of the monthly payroll. Jereissati started by sacking nearly 23% of civil servants (more than 30,000 out of 130,000) reducing the size of the state administration, and hence the state's fiscal burden. Further, he closed more than one-third of the almost thirty state-owned companies and removed political appointees from the top administration of state-owned water and electric utility companies and banks.<sup>9</sup> In addition, he modernized the state's tax collection system by putting in a massive computer system under the responsibility of professional financial staff.

In the first year of Jereissati's governorship, the state faced a severe drought, a phenomenon that has hurt Ceará approximately one out of every five years. The 1987 drought affected almost 80% of the municípios by destroying their crops and killing their livestock. The state government had to spend extra resources to provide water and to employ 225,000 rural people who had lost their crops. To extend water supply to the rural population affected by the drought, the state government had to purchase trucks, tractors, pipes, tubes, and tube wells.<sup>10</sup>

### Fiscal Stringency Generates Unexpected Changes

In the two previous decades, resources to cope with drought-related emergencies came from the federal government. These federal monies were used by the state

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<sup>9</sup> Mainly employees who were collecting more than one pay check from the state and those who had never appeared in the offices (phantom servants).

<sup>10</sup> In 1987, the state government built 2,700 water-holes and 1,140 wells to alleviate scarcity of water in dry areas.

government to employ rural workers in public works programs, or to purchase staple food for the affected rural poor. However, in 1987, the federal government cut back its fiscal support for emergency relief programs, due to a compression in the federal budget. At the same time, the federal government transferred to the state government of Ceará duties of providing health care, and agricultural extension services, which were previously the responsibility of the federal government. Caught in this double bind, the state of Ceará had to use its own resources to face the emergency caused by the 1987 drought, at a time when the state's resources were so low that it could not even meet its payroll obligations.

Faced with this severe financial constraint, the state decided to redesign the emergency program to ensure effectiveness even at low cost. First, the governor cut back expenditures on dams and other large infrastructure, previously a must in emergency programs. Instead, he focused on less expensive construction-based works, such as schools (sometimes only classrooms) and the creation of a health-agent team, formed mostly of peasant women. Second, and most importantly, he established the state government directive which said that all drought-relief programs had to buy materials directly from local producers, including small informal firms. His hope was that this would keep a greater part of the program's resources in rural areas, allowing an expansion in the number of beneficiaries and jobs.

Since most of the drought relief programs were construction-based, they created a vast demand for bricks, tiles, lime, stones, and wood frames for roofs, not to mention all tools commonly used by workers in these kinds of services, like hoes, backhoes,

buckets, shovels, and wheelbarrows. In former emergency programs, the state government had purchased many of those items from firms located outside the state. The government's order to purchase all materials from local producers, created favorable conditions for establishing or expanding small businesses. During this period, people from the countryside opened more than 100 small businesses such as lime-burners, wood workshops, stone pits and brick factories. Before this there was little chance for non-agricultural occupations in rural areas.

#### The "Pilot Project"

In 1987, when government officials were discussing how to implement the emergency program in rural areas, they brought together different local representatives (priests, teachers, politicians, and leaders of rural workers and communities) in groups called "Grupos de Ação Comunitária"--GACs (Community Action Groups). The state government organized a GAC in almost all regions affected by the drought in order to get community together to discuss the emergency program.

As a rule, previous drought relief programs did not care about generating sustainable activities. Just the opposite was the case, they used to concentrate efforts on employing people only as long as the disaster lasted. Typically the state would distribute food or funds directly to the affected population, with no concern about encouraging new economic activities. This time, by including people from the communities in the discussions, the government was able to identify local potential and to use it in the drought emergency program.

In one of these GAC meetings held in a município close to São João do Aruaru, the local priest was present and, in consonance with the spirit of the program, he suggested that the state government order wooden wheelbarrows from the sawmills of São João do Aruaru.<sup>11</sup> He knew the community, and had realized that many people there had carpentry skills, so that it would not be difficult for them to manufacture wooden wheelbarrows. The head of SIC was one of the government representatives in that meeting. He liked the idea and, as a member of the commission in charge of coordinating the emergency program, he immediately arranged for the commission to make the first order of 300 wheelbarrows to the small sawmills of São João do Aruaru.<sup>12</sup> During former emergency programs, Ceará had bought iron wheelbarrows from firms located in the south of Brazil. During the emergency program of 1987, the state adopted a locally made model, made of native hard wood ("aroeira" and "pau d'arco").

The small district of São João do Aruaru (9,000 inhabitants in 1991) is part of the município of Morada Nova (59,000 inhabitants in 1991) which is well-known for its woodlands rich in good quality wood, such as "aroeira", "cumaru", "pau branco". By 1987, there were four small and crude sawmills in the district (three workers each), which is an unusually high number of sawmills for a site that small. In most other districts, the only economic occupation apart from agriculture is small commerce. In

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<sup>11</sup> Sawmills in Ceará, especially those in the countryside, are not only a place to cut wood and to sell planks, but they are also woodworking shops and they manufacture simple things like window frames, doors, frames for roofs, etc.

<sup>12</sup> The state government had set up an Emergency Commission to deal with the drought. Several other state departments took part in that commission, besides SIC: Planning, Agriculture, Hydro Resources and Social Action.

São João do Aruaru, it had long been easy to get timber for construction, roof framings, bodies of trucks, and shallow pans and trays for manioc and sugar cane mills.

However, the sawmills there had never produced wheelbarrows before. Before the GAC meeting, not many people knew about São João do Aruaru, neither in the government, including the state Department of Industry and Commerce (SIC) and its agencies, nor in the private sector.

So when the order came it was too large for São João do Aruaru's sawmills, and the time period (15 days) was too short. These two factors generated twin pressures for timely performance. The four sawmills had to contract new workers to meet the deadline; in most cases they doubled the number of employees. The majority of these new workers (all males) did not have enough skills to manufacture the wheelbarrows so they worked together with those already trained. The new workers helped the skilled employees in some tasks, and at the same time they learned how to operate the tools and the machines. That was the first time that the sawmills were producing for the state government, and they wanted to do the best they could because they were eager to get other large orders from that client in the future.

Another problem facing these producers was how to buy the raw material necessary to produce the huge number of wheelbarrows, as the sawmills were all very modest, and maintained only a small stock of raw materials, such as timber, varnish, sandpaper and nails. This could have produced a barrier, but SIC wisely provided the sawmills with a cash advance of 50% of the contract value so that they could purchase

the materials required to manufacture the order.<sup>13</sup> On average, each producer received US \$600 as a cash advance. Apart from the timber, the producers bought almost all the other inputs (glues, varnish, laminated wood, nails, sandpapers) in Fortaleza, the capital city located approximately 160 km away and connected by a paved road to São João do Aruaru.<sup>14</sup>

Three technicians (civil servant engineers from SEBRAE or NUTEC) assisted the producers in the design and assembly of the wheelbarrows, and in the selection of the most appropriate types of raw materials, such as wood, glue, varnish and nails. These professionals delivered a very focused and targeted technical assistance, rather than open-ended and more general help. This kind of technical assistance proved to be effective in helping the producers to improve their performance, as I will detail in chapter four.

After the emergency commission received the first shipment of wheelbarrows, it made four other requisitions--yielding almost 2,000 units--to the same producers over a period of almost a year. After approving the quality of the wheelbarrows, the emergency commission also ordered other items required by the drought relief program such as wooden handles for hoes and backhoes, and wooden barrels to use in the distribution of water. In these negotiations, SIC acted as an intermediary between the commission and the sawmills, coordinating the orders and payments.

The experience of producing the wheelbarrows brought about two interesting

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<sup>13</sup> SIC received the resources from the state government to make the cash advance.

<sup>14</sup> Proximity to Fortaleza (2,3 million inhabitants in the metropolitan area, in 1991), the largest market in Ceará, has been very important for extending the market for these producers.

outcomes. In the first place, the workers and the owners upgraded their skills. Prior to their experience with wheelbarrows, their jobs basically required cutting the timber, with no refined techniques. Only a few workers had produced more elaborate items such as rustic doors and windows, catering to a local market which could not afford sophisticated models. In addition, the manufacturing of the wheelbarrows brought the producers together with engineers--a contact that they had never experienced before.

Secondly, the producers realized that they had to change the way they were doing things, given that they were facing large orders for the first time. Previously, in almost all sawmills, each worker was responsible for producing each item, from beginning to end. There was no division of labor in the workshops, basically because the production level was too low. The opportunity to fill a large order brought about the concept of a *Smithian* subdivision of labor to the workshops. The producers realized that if they divided the manufacturing process among the workers within the workshop, so that each one had to perform one particular task e.g. sawing, nailing, sandpapering, the daily production would increase, and the quality of the items would improve due to the specialization of each worker.

The fact that the workshops had to contract more workers right from the very beginning created a dynamism in the district. Many new people entered the sector, not only as workers, but also as owners of sawmills. Estimates from the local association of sawmills point out that the number of workers in the sawmills increased 70% in one year. Indeed, in that same year, two former sawmill laborers opened their own

sawmills in São João do Aruaru.<sup>15</sup>

The government orders caused a quite visible impact in São João do Aruaru. All the four local sawmills bought new machines to expand their capacity. Young males, who normally would have worked in subsistence agriculture, started to work in the sawmills. The new workers learned the skills on the job, and at the same time got paid. On average, the wage for the "beginners" was around 60% of the minimum wage, and after they got skilled, the wage ranged from one to three minimum wages. Compared to wages in agriculture which rarely exceed 50% of the minimum wage, the sawmills' workers were better off. In addition, the community was proud of having produced the wheelbarrows for the emergency program. A native old woman said: "Aruaru proved that the poor also has something to offer to the government."

Ironically, it was during the drought--i.e. a period of adversity--that the sawmills really boomed in São João do Aruaru. The two simultaneous events--drought and the state fiscal crisis--created this opening that favored small local firms. Rather than reducing their production during the drought, due to the decline in rural incomes, the sawmills experienced in six months the greatest expansion in their production history, averaging four times their usual output.

The boom occurred because of the creative way in which the public agencies in

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<sup>15</sup> Setting up this kind of sawmill does not require a lot of investment because many of the basic machines can be locally assembled using old spare parts of trucks. The bandsaw for example, which is the first equipment they need to open a workshop, can be assembled using a part of a truck's wheels and an electric engine which costs less than US \$70, corresponding to about one monthly minimum wage.



Ceará had decided to handle the need for supplies for the emergency program.<sup>16</sup> They took advantage of the traditional wood activity and the existing skills, and then added what Kilby and D'Zumera (1985) and Tandler (1989) call the "missing component", which in this case meant a new market for the firms. The government purchases sparked dynamic economic activity in the district. In contrast to the way drought relief programs used to operate, this new approach used government purchases to induce development.

For the state government, buying the wheelbarrows from São João do Aruaru had two advantages. First, the wooden wheelbarrows were actually more durable than the iron ones. Surprisingly, construction workers preferred the locally made wheelbarrows because they did not rust or dent. Second, the price of the wooden wheelbarrow was 30% lower than that of the iron ones used previously. At a time of fiscal crisis, this cost-saving was really significant. By using simple solutions like purchasing indigenous items manufactured by small firms, the state government was able to use its resources more effectively, and expand the emergency program to all areas hit by the drought (171 municípios). This expansion represented a substantial improvement, since previous governments had seldom been able to assist all municípios affected.

The price of the wheelbarrows made in São João do Aruaru was lower for several reasons. First, the state government purchased them directly from the producers,

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<sup>16</sup> Tewari (1990) reports another example of how government creativity can play a key role in setting the conditions for industrial development. In the context of import-substitution regime, the government of Punjab, India was able to handle basic raw-material quotas and import licenses to generate funds and to foster labor and skill for the emergence and growth of small and medium industrial firms located in the district of Ludhiana.

rather than from intermediaries, as in previous cases. Second, although making wooden wheelbarrows is more labor intensive than the iron wheelbarrows production, abundant cheap labor was one of the comparative advantages of São João do Aruaru.<sup>17</sup> In contrast to workers in the capital city who rarely work for less than the minimum wage, the work force in São João do Aruaru initially had no trouble accepting less than the minimum wage; that was their only option for getting cash. Third, the basic raw material used in the wheelbarrows was native wood, which was plentiful in the surrounding areas. The producers bought a certain number of hectares of woodland for which the price would depend on the quantity and on the quality of the lumber. The acquisition of "*madeira em pé*" (standing forest) was possible because many land owners were eager to clear the land to use it for agricultural purposes.<sup>18</sup> Finally, savings in transportation costs also contributed to the low price of wheelbarrows. Transporting the wooden wheelbarrows from São João do Aruaru to the emergency fronts was often less expensive than transporting the iron ones from Fortaleza to the countryside, where they were used in the public works projects. In former emergency programs, the state government bought wheelbarrows and tools from dealers located in Fortaleza and then shipped the items from Fortaleza to the emergency fronts.<sup>19</sup> Although I was not able to get precise figures, civil servants from the state government estimate that the cost of transporting relief-related items from Fortaleza to the

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<sup>17</sup> The cost of the wheelbarrows consists of 40% labor, 40% raw material, and 10% machinery.

<sup>18</sup> According to a sawmill owner, on average, the cost of timber breaks down in the following way: 60% for the amount paid to the land owner, 30% for the amount paid to the workers to cut the trees, and 10% for the rent paid to the truck (including truck driver's pay) to transport the trunks to the sawmills.

<sup>19</sup> The dealers, in turn, had purchased those items from manufacturers, most of them located outside the state.

emergency fronts in previous years averaged 8% of total costs.

As a result of the experience during the 1987 drought, SIC and the governor realized that they could stimulate small firms to produce simple items demanded by state agencies. Hence, a concern about unemployment induced the state to encourage people to set up small firms in the countryside. When the emergency program ended, SIC created a permanent program of public procurement. Rarely in the past, had an emergency program (or a component of it) in Ceará become permanent--the PPP was an exception.<sup>20</sup>

### A Turning Point

The experience of purchasing urgently needed items from small firms during the emergency program encouraged the state to go a step further and adopt a permanent policy of opening up its own market to small firms. From within the ranks of state government, SIC's director, Ariosto Holanda played a major role in influencing the government to expand the pilot experience. Holanda had a long experience in working with small firms, and the fact that he took part in Jereissati's staff was crucial for the emergence of the PPP. In 1978, Holanda had succeeded in establishing a state agency--NUTEC--in charge of assisting small firms in technical problems. NUTEC had become a successful agency, and was known in the public opinion as being an institution "free of political interference".<sup>21</sup> The years at NUTEC gave Holanda tremendous experience

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<sup>20</sup> The health-agent program also became a permanent program after the 1987 drought.

<sup>21</sup> Holanda stayed almost nine years as president of NUTEC, remaining in the same position while three different governors took office.

with small firms; he was aware that in many cases small firms could produce good quality items at low cost, but often those firms had enormous barriers in marketing their production. Even before Jereissati came to office, Holanda had unsuccessfully tried to persuade the government to procure from small firms. Jereissati nominated Holanda in order to capitalize on his experience with and ideas for small firms.

After the drought, in 1988, SIC did not know what items the state agencies could purchase from small firms. Then SIC conducted a survey to identify the inventory of items that state agencies were purchasing, in an attempt to identify other business opportunities for small firms. The survey and discussions with engineers from NUTEC and SEBRAE indicated several items whose manufacturing process did not require high levels of investment. Examples include furniture for schools and government offices, electrification poles, boots and uniforms for the state police, bed sheets for hospitals, and repair of public buildings. These items became new targets for public procurement from small firms.

Even with the results of the survey in hand, SIC could not motivate state agencies to procure from small firms because the agencies were already accustomed to their large suppliers. An exceptional opportunity for scaling up the PPP emerged in 1989, when a young political ally of Jereisati, Ciro Gomes, was elected mayor of the capital city, Fortaleza. The new mayor took office in January, 1989, and found the city public schools in a chaotic state. The 69 existing school buildings and their furniture required urgent repairs given almost six years without maintenance. He had only eight weeks until the start of the school year. Gomes had been the majority party leader in

the state legislature during the first two years of Jereisati's governorship, often grappling with the opposition which strongly attacked Jereisati's policies. He had also taken part in the discussion of the emergency program in 1987, including the experience of purchasing the wheelbarrows and other simple items from small firms located in the countryside. Hence he knew that the state had saved money when it bought from small firms, and started exploring the potential for procuring other goods from those firms. He hoped that contracting small firms could help to alleviate the poor condition of Fortaleza's school system (buildings and furniture) without putting pressure on the extremely precarious financial situation of the municipality.<sup>22</sup>

As in the case of the wheelbarrows, Fortaleza's Department of Education had usually purchased iron or laminated-wood furniture from large firms located far away from the state, through large contracts. To reduce public expenditure and take advantage of good quality and prompt delivery, the new mayor, backed by SIC, decided to procure the school desks from the sawmills of São João do Aruaru and, also, to contract with local small firms in Fortaleza to repair the school buildings. On average, the city Department of Education saved 30% in comparison to what regular suppliers would have charged. This is just the opposite result from the dream on subsidies to small firms that most other governments complain of.

The first order to São João do Aruaru's firms was for 3,000 school desks and 100 tables for teachers. Five of the seven sawmills in São João do Aruaru manufactured the first order in a little more than a month, almost the same time that

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<sup>22</sup> Fortaleza's financial situation was worse than that of the state in 1987: payments to suppliers were three months overdue. The city's total revenue was not sufficient to cover even the payroll expenditures.

former large suppliers would have taken to deliver the items to the city. That order yielded the sawmills around 540 monthly minimum salaries (US \$38,000), compared to 20 salaries per month that they were making altogether previously.

To repair all 69 municipal school buildings, the city also contracted approximately 26 informal local small firms of electricians, plumbers, bricklayers, and painters. Most of these firms, which had no more than five workers, doubled in size. In many cases workers took turns working 24 hours every day. The firms took only 45 days to complete the services (including the time it took for SIC to organize the contracts), which was a great achievement. In total, the firms received US \$190,000 for the service, an amount that in the past they would have likely earned in not less than 14 months.

### Selecting Firms

To select the firms, SIC contacted the neighborhood associations, which are groups formed by local residents to organize community-wide action around common goals. SIC asked them to suggest which firms it should choose to do the repairs. By using this method, SIC expected the associations to indicate only firms that they knew and trusted. This link between the community and the firms was very important to ensure a sense of accountability. The associations themselves had a great interest in getting the school in good shape, because it would benefit their community; this forced them to recommend only trustworthy people to execute the repairs. The small firms in their turn, felt the pressure to perform well and to finish the service on time, as they

were also part of the communities who would benefit from the school. SIC found this system to be an effective mechanism to coopt the associations to supervise the operation of the new repair-service system. In fact, in the course of my fieldwork, I could verify that the more organized the association, the better the repair service. For example, members of some well-organized associations would come regularly to see how the repair was progressing, if the firms were doing what they were supposed to do, and if the firms were using acceptable material in the work. Some members actually went to the school principals to tell them their impressions of the service. In one case, the members identified a drinking fountain which was almost ready yet had no cooler system; this would make the fountain worthless because the temperature in Fortaleza can go up to 37°C. The members pressed the principal to work it out with the firm. In contrast, when the associations did not get involved, problems with the repair went unchecked, e.g. local people stealing materials from the school.

The refurbishment and repair of the school buildings gave the PPP a decisive boost especially because the firms accomplished the orders in a short period of time while maintaining the desirable quality, charging lower than the market price. After this experience with the city administration, SIC started to expand the PPP. After seeing the results that the city Department of Education got from contracting with small firms, the state Department of Education also got in touch with SIC to purchase school desks from small firms. Four years later, that Department has continued to purchase desks and other types of furniture, such as bookcases and tables, from small firms, which are now dispersed in 45 municipios throughout the countryside.

SIC decided to disperse the PPP in response to political pressures from other municípios, which, having seen the impact of the public orders on São João do Aruaru, also wanted to benefit from those orders. When SIC ordered all its school desks from São João do Aruaru, the district had enough business to stimulate other activities related to the sawmills. Although dispersion of the order meant more communities could benefit from the PPP, it also meant more irregular orders to firms which in turn caused a decrease in the set of linkages generated by the emergence and growth of the sawmills. In the next chapter I will discuss the effects of the PPP on São João do Aruaru.



## **CHAPTER THREE**

### **THE SPILL-OVER EFFECTS: SÃO JOÃO DO ARUARU**

Apart from being the place where the PPP originated, São João do Aruaru is the place where its results were most noticeable. As SIC decided to disperse the public orders among a large number of municípios, the PPP lost the potency to generate secondary benefits. In this chapter I try to answer the following questions: What is the reason for the outstanding second-order benefits in São João do Aruaru? What prevented SIC from replicating that in other municípios?

When in 1992, the state Government of Ceará organized a national seminar to advertise the PPP in Ceará, SIC chose São João do Aruaru as a place to take the governors and top level bureaucrats from almost 20 Brazilian states in order to demonstrate how the program had benefitted small firms. In addition to the journey to the small district, the visitors were also impressed with the speech of the state secretary of education who announced that the program had actually saved that agency around US\$ 3 million in four years.

The general impact of the PPP in São João do Aruaru is impressive. Starting from four small and modest sawmills, the district now has 42, and at least 40% of them own fairly sophisticated equipment, such as electric planers, power lathes, rooters and presses. Most sawmills have from eight to 10 permanent workers.

In many ways, life has changed in this district. Now the entire local economy there operates around wood activity, and the sawmills represent the most important and

fastest growing source of income. In addition to the employees working permanently in the workshops, every sawmill hires from four to seven additional workers to cut the trees in the woods, slice the trunks, and send the timbers for the sawmills to manufacture the items. The head of the local sawmill association estimates that there are roughly 1,000 people working directly for the sawmills located in the area. On average, the workers who stay in the sawmills earn around US \$60 per month (compared to the monthly minimum salary of between US \$50 and US \$70), in weekly disbursements.<sup>23</sup>

Apart from the direct jobs created by the sawmills, there are several other activities emerging around the place which in turn also contribute to expansion of employment. There, I could perceive clearly the advent of what Schmitz (1992) calls *collective efficiency*. Producers have become specialized in different things such as fixing and assembling machines, suppliers have emerged to provide inputs, transportation, and housing, financial services, and a pool of workers with specialized skills has developed.

The expansion of wood manufacturing in São João do Aruaru generated a synergy that created opportunities for other linked activities to arise in the area. The spill-over effects that clearly have emerged are the results of the agglomeration of several sawmills. The growth of the sawmills created a threshold of demand for several other related activities, like the assembling and fixing of equipment, construction of

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<sup>23</sup> The federal government revises the monthly minimum salary in Brazil every two or four months, due to the inflation rate, which is currently around 26% per month. Most workers only get their payment at the end of the month, when the inflation has already reduced its real value.

buildings, brick making, the trucking system to collect the timber in the woods or to bring the local production to the trade fairs, and wood suppliers.

At least two workshops, that seven years ago were engaged in timber and manufacture of a few items, have moved to fixing and assembling equipment such as band saws for the saw-mills and presses for the preparation of cheese by small rural industries. Owners of such workshops have great skills, and work with assistants and some apprentices. In these workshops the manufacturing of wooden items has now become a secondary activity, so much so that the owner often chooses one of his assistants to supervise that section--while he stays busy with the equipment assembly, the primary undertaking of the workshop. The main clients for such firms are the sawmills, sugar-cane mills, manioc mills, and small dairy farms.

New opportunities are arising for women. Some sawmills now hire women to paint the furniture, a service done by men before. They pay the women "per piece," because not all items have to be painted, so they only occasionally need someone to paint the products. The owners of the sawmills prefer to hire women for that part of the work, they say, because women are generally more patient, and do that job better than men; they also get used to "quiet" work, as opposed to men who like the noise of the machines. However, women--who are less than 5% of the total number of workers--earn about 30% less than men, because there is a sense among the owners that painting is "easy" work.

People now live better in the area. After their earnings started to rise, residents immediately started to improve their living conditions. Seven years ago, most of the

families used to live in mud huts, a housing type very common among poor families in the Northeast. Recently, there has been a growth in brick houses, which are more comfortable, fancy, solid and expensive. On the district's main street, where most of the sawmills are located, the majority of the residences are now brick-made. Right beside the house, or attached to it, is the sawmill, which is only a hangar full of wood and machines. Curiously, the owners of the new houses do not demolish the old huts; they keep them just to show the visitors how their lives have improved, and how well they are now, compared to before 1987.

As a result of the intensity of construction of both saw-mills and houses, three years ago someone from a nearby town sensed the market opportunity and established a brick factory there. The new factory hired 20 local workers. Other businesses have appeared as a result of wood manufacturing; for example three people bought trucks to transport the local production to the weekly trade fairs. The owners of the trucks are now making their living carrying the production of the sawmills to these fairs, and on the way back they bring food and other items to sell in the district. Five other former owners of small stores bought old trucks to transport the timber from the woods to the district. Furthermore, a dealer has recently set up a shop in the district to sell Amazonian wood, which has become popular because of its higher quality and larger width compared to local varieties.

The district has also benefitted from improved services. Some new bus lines have been scheduled by the regular bus company, as a result of the intensive movement from there to Fortaleza. The level of business has attracted the attention of the banking

system, too. Amazingly, three years ago, the Bank of Brazil opened a branch there, when at that same time, it was closing existing branches in larger towns due to the national recession. Around 15% of Morada Nova's banking transactions are now made in São João do Aruaru. Most of the sawmill owners now operate banking accounts and some are familiar with lending systems, a rare accomplishment for rural producers.

Almost 70% of the sawmills have official invoices.<sup>24</sup> They can sell their products legally without the threat of fiscal controls, and can reach institutional markets which usually require official invoices. Besides that, local dealers and suppliers consider the sawmill owners trustworthy because they have proven they can pay for their purchases on time, and that gives them the advantage of buying on credit which in Brazil's inflationary economy is an important privilege.

Everything in São João do Aruaru happens around the sawmills. People in that district usually say that everybody there is "already born with the worm of termite," meaning that everybody there is familiar with wood workshops. Indeed, for many generations the labor force has been accustomed to manufacturing wooden items. Thus, firms can get skilled workers relatively easily within the district. Since the workshops are located close together, they find it to be quite easy to exchange machines and equipment with each other. This represents a crucial advantage in face of the high cost of such objects when bought brand new.

The sawmill owners have also become politically active. As they represent the most important economic activity in the area, the sawmill owners try to come to

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<sup>24</sup> In Ceará, the state legislation exempts microenterprises from value-added taxes. The state considers firms with total annual revenue less than US \$14,000 as microenterprises.

consensus about political issues, such as a candidate for local mayor. People there are now discussing whether the district should become independent from the município because São João do Aruaru has grown beyond the level of a district. In this controversy, the sawmill owners are the most active participants. They are also very influential in general concerns, and often contribute to the formation of local public opinion about various issues. For example, three years ago, they managed to negotiate with the mayor of the município to arrange a night high school in the district. The teachers come every night, riding a car (a 45-minute drive) paid by the município to teach local students. This was needed because some of the students work in the sawmills during the day.

In sum, São João do Aruaru already had a tradition of skilled workers involved in wood-based activities, but the government contracts brought the opportunity to grow and to induce economic and social development. The main reason why São João do Aruaru grew so much is because, in the beginning of the program, SIC concentrated the public purchases of school desks there, rather than diffusing the purchases among several municípios. Since the beginning of the PPP, São João do Aruaru has supplied school desks to the public schools of the capital city, and still remains the major supplier.

The PPP gave the sawmills the capacity to diversify into other private markets. In the early period of the PPP, the government orders helped establish and expand the sawmills; the contracts with the government were important to help the sawmills pay off their initial investments, to improve their technical capacity, and to force them to

control the quality of their production. Later, the firms gradually diversified their production into residential furniture which helped them to achieve new markets in Ceará.<sup>25</sup> In 1992, government orders represented only 30% of the local sawmills' production. The PPP was no longer the exclusive purchaser, although it did continue to help stabilize the sales.

The state government divulged through the press that São João do Aruaru was doing a good job producing wheelbarrows and school desks for public schools. Other municípios learned about the impact of the PPP there, and local leaders started to pressure SIC to extend the PPP to their municípios. Politicians such as state legislators, councilors, and mayors have perceived how they could use the PPP as an instrument to get political support because of its potential effects on the local economy (jobs, income, better services). These politicians advocated that firms in their areas should also receive orders from the government. They tried to put pressure on the government by inviting the director of SIC and the governor to the municípios to participate in meetings where they demanded public orders for the local small firms. Moreover, small entrepreneurs used their local associations to convince SIC to extend the PPP to their municípios. SIC did not resist that pressure.

### The Diffusion

SIC has now spread the PPP to more than 50% of the municípios in Ceará. However, none of them have been able to reproduce the extensive benefits generated in

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<sup>25</sup> See chapter four.

São João do Aruaru. As a consequence of the spread, the different municípios get sporadic orders which are neither consistent, nor substantial enough to induce any other secondary activity. In contrast to São João do Aruaru, where the frequent public orders generated a significant impact and a set of secondary activities, the money the state spends in small orders diffused across several municípios, has not resulted in a chain of complementary activities. As a consequence, the diffusion has prevented the generation of spill-over effects.

After visiting seven municípios in Ceará, as well as several vicinities in the metropolitan area of Fortaleza, contacting small firms that have produced for public agencies, I could not find any endeavor comparable to São João do Aruaru's accomplishment. Although state's purchases from small firms have increased annually, SIC can only make small orders to each producer because the agency is concerned with involving a high number of municípios in the PPP.

School furniture remains the only item that SIC still contracts from mainly in a single area; São João do Aruaru manufactures almost 40% of the total orders of desks and school furniture which now reaches 90,000 items annually. For all other items, SIC has made an almost even distribution among 80 of the state's municípios. Officials from SIC explain: "the recession is everywhere, and we have to help the highest number of firms we can." In fact, political pressures in such programs are the main obstacle; it is hard for the government to concentrate economically when it can not concentrate politically. The unique case of São João do Aruaru illustrates the potential of the PPP; while spending only the usual amount of money for purchasing, the state was able to



induce an impressive amount of economic activity which contributes to improving living standards in that rural community.

### Conclusion

Given its initial vocation and its proximity to Fortaleza, SIC has targeted São João do Aruaru for a predominant part of government purchases of school desks and similar items. Due to this centralization of purchases, the number of sawmills has risen extraordinarily in the district. The agglomeration of firms created a threshold of demand that induced an emergence of several other economic activities. A set of second order effects have multiplied the primary impacts of the PPP in this locality. However, forced by political pressures, SIC has recently diffused the PPP across several other municípios. Since the volume of purchases did not expand as much as the number of participating municípios, each município now gets a minimum share in the total purchases, which is not sufficient to induce second order effects. Hence, the state has lost an opportunity to use its procurement as a catalyst for change in certain areas. Despite of that fact, the PPP has proved to be effective in enabling firms to reach new private markets. In the next chapter, I will discuss how this was possible.

## **CHAPTER FOUR**

### **QUALITY REQUIREMENT TO DISCIPLINE FIRMS**

The PPP played a definitive role in keeping firms away from inefficiency and obsolescence, and thus prevented firms from becoming dependent on the public procurement system. Many firms have diversified their production and reached new private markets, as I will detail below. My main questions in this chapter are: Why did that happen? What forces have led firms to develop new markets? How did the firms benefit from the PPP?

The attempt of government to create assured markets for domestic firms has often weakened competitiveness among firms. When firms benefit from protected markets, they have little incentive to improve productivity, technology, or quality. Firms do not need to go through these efforts to sell their production because official regulations discourage imports, and hence ensure clients for local firms.

In many late-industrializing countries, the result of protecting domestic markets from foreign competition has been the obsolescence of the productive sector. The import substitution industrialization strategy followed by many developing countries, including Brazil provides an example of how firms perform when special regulations (e.g. tariff barriers) prevent them from competing internationally (Baer 1965, Baer and Villela 1973, Sachs 1985, ). According to Hirschman (1971) Latin American industry has lost competitiveness because governments have been unable to modify institutions and to lift the tariff barriers at the right time. As tariffs raise the prices of imported goods, domestic firms do not feel the pressure to pursue modern quality standards or to

increase productivity to compete with such imports. By protecting firms selectively, the government isolates them from the dynamism of the market. As a result, firms do not try to emulate more advanced producers and lose competitiveness in the market.

Under certain conditions, however, protecting local markets can yield outstanding results. In South Korea and Taiwan, the governments protected the home market, but it made renewal of the subsidies contingent upon performance, measured through mechanisms like export targets (Amsden 1989, Amsden and Hikino 1991). Thus, governments can play a role in launching firms into world-wide competition through initial and selective protection, as long as they establish principles of reciprocity. This particular type of government intervention has proved to be an effective way to discipline firms and to foster competitiveness.

In contrast, most small firm programs in developing countries end up functioning as handout programs (Chen 1989, Kilby and D'Zmura 1985, Sanyal 1992) because of their implicit subsidies in the forms of credit, equipment, inputs, and technical or managerial assistance. In general, these programs lack an entrepreneurial perspective and do not have any mechanism to discipline firms, so that they can eventually succeed in the competitive market. Consequently, these programs cannot sustain themselves and render small firms dependent on government incentives. Even one of the most successful small firm programs, the Grameen Bank, in Bangladesh, can not survive without subsidies (Biggs et al. 1990). The Grameen Bank, which is a bank owned jointly by the government and its borrower-shareholders, has become in the last decade

one of the most remarkable example of minimalist credit in the world.<sup>26</sup> It charges a yearly interest rate of 16%, while its costs in terms of loans and advances come up to 27.4%. Similarly, Kilby and D'Zmura (1985) describe five well-known small firm programs in Upper Volta, Brazil, Honduras, Dominican Republic, and Peru which, with the exception of the last one, are financially non-sustainable.

I argue here that in the case of Ceará, a mechanism of reciprocity operated successfully to force firms to perform well. In contrast to most other programs in developing countries, the government of Ceará did not purchase indiscriminately from small firms, but required them to meet quality standards, and paid them market prices (or even less) for their products.

### Ensuring Feasibility

In order to implement the PPP, SIC had to phase out many inadequate practices in the state's public procurement. One such practice was lack of attention to quality of supplies. The public sector in Ceará had never made strong efforts to control the quality of its purchases because public procurement was often an opportunity for bribes. Private sector firms within and outside the state could easily sell low quality goods or services to public institutions. As a consequence, almost everything the government bought had a short life. For example, principals from public school in Ceará complained that desks often did not last more than three years.

On their part, private firms did not strive to deliver high quality goods to the

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<sup>26</sup> According to USAID (1989), minimalist credit programs are a "subset of small credit assistance programs...where the predominance of attention is nearly exclusively on small amounts of money lent to poor and landless people."

public sector because for several reasons dealers often did not view government as their preferred customer. First, frequent budget shortfalls forced state government agencies to make late payments. Given Brazil's high inflation rate of 25% a month over the last five years, this entailed excessive losses to the state suppliers. Second, selling to the public sector was not a simple process. The numerous mandatory bureaucratic procedures took time and demanded extra effort on the part of dealers. For example, in Brazil, all public purchases above US \$1,000 have to call public bidding.<sup>27</sup> That procedure entails additional duties for the sellers, e.g., paperwork and credentials, including the firm's registration and tax-payer certification, which in turn induce the firms to charge higher prices to the government.

Buying from small firms could have easily been a problem, given the inherently high administrative costs of managing a large number of contracts, each one corresponding to a small quantity of items. On the one hand, the larger volume of work may have ended up creating an extra burden for the public sector which could have to spend more, acquiring new office equipments, and hiring new employees. On the other hand, bureaucrats may not encourage the idea of buying from small firms because this usually requires additional paperwork by multiplying the work to control quality, prices, and deliveries. Besides, most small firms are not registered, and these firms do not pay taxes, do not issue receipts, etc. All of these factors worked against small firm contracts.<sup>28</sup>

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<sup>27</sup> See federal decree 2.300

<sup>28</sup> The resistance from larger firms--former state suppliers--worked as an additional barrier for the implementation of the PPP, as I will discuss in chapter six.

However, once SIC established the PPP, the purchasing agencies did not have to deal with numerous small firms. They signed the contract with SIC, and therefore had to deal with only one agency. SIC in turn, transferred the onus of having to deal directly with small firms to SEBRAE. SIC played the role of the prestigious institution which used its status as a state department to channel the demands of other public agencies.

The process works as follows:

After formalizing a contract with a public agency, SIC asks SEBRAE to identify a specific group of small firms to subcontract with them. SEBRAE prepares a specific contract for each group and asks the group to form an association. Each contract, signed between SEBRAE and the group, includes specification of the items (descriptions and designs), the number of items, the value, the time period within which to deliver the finished product, and the condition of payment. The group then discusses the shares applying to each one of the members. When SIC and the purchasing agency formalize the contract, the agency advance 50% of the total value of the contract to SIC. SIC then passes the payment to SEBRAE, which in turn pays the association so that the firms can receive payment. Besides having the task of organizing the manufacturing firms to fulfill the orders, supervising the production, SEBRAE administers the cash advance and the final payment, and check the quality of all items. SEBRAE discusses the price and timing with the associations, and does the paperwork, so that they do not have to worry about writing up complex documents.

SIC did not feel that these new contracts took much time. In contrast, all these

tasks increased SEBRAE's work load about 30%. Nevertheless, SEBRAE did not perceive the additional tasks as a problem, but rather as an opportunity since the program gave SEBRAE and SIC a lot of prestige, both within the state and in the entire country. Local and national newspapers widely covered the speed with which SEBRAE mobilized small firms in the wheelbarrow-case in 1987, and later in the grain silo episode in 1991.<sup>29</sup> Therefore, the PPP gave SIC and SEBRAE the opportunity to get around in the state bureaucracy.

### Paying for The Service

SIC gave to SEBRAE the responsibility of administering the contracts with the associations. Why did SEBRAE agreed to do all of this hard work which amounted to a 30% increase in its workload? What was in this program for SEBRAE?

In return for its work in the PPP, SEBRAE received a commission of 5% of the contract values.<sup>30</sup> For SEBRAE's budget, this payment represented an important source of resources, especially since the agency had just lost a major source of income from the national headquarters due to the federal government fiscal stringency.

SEBRAE, formerly known as CEAG, is a national level agency with branches in almost all states in Brazil, and headquarters in Brasilia, the national capital. The budget of each state branch includes funds from the national headquarters, state government, and developing agencies, plus revenues from services rendered. In Ceará, due to cut-

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<sup>29</sup> I will detail this story in a section below.

<sup>30</sup> In terms of commercial transactions this represents for a reasonable percentage.

backs in federal funding, SEBRAE had established a solid relationship with SIC, an agency that had, since 1987, clearly embraced the cause of small business.

Salaries for civil servants in Ceará are very low. Some engineers who work for the state government may get less than three times the minimum salary per month, to work 6 hours a day. Nonetheless, in SEBRAE they earn an average of six times the minimum salary monthly for eight hours a day of work. The commission that SEBRAE gets from the contracts (5%) is more than sufficient to pay for the cost of the hours that the professionals allocate to assist the firms.

As the volume of public orders has expanded, the value of the commissions has increased to the point that it currently represents approximately 20% of SEBRAE's budget. The fact that SEBRAE also had something to gain from increased purchases from small firms motivated the agency to ensure that the PPP and the producers performed well. Clearly, if public agencies were dissatisfied with the PPP and discontinued their orders, SEBRAE would lose its commission.

In order to ensure quality, SEBRAE staff frequently visited the producers, providing technical assistance when necessary, making sure they could meet all deadlines, and assisting them in their own purchases of raw materials. For example, SEBRAE's employees would often make several phone calls to different suppliers of inputs in order to arrange a better bargain for the producers to purchase raw materials. In the case of grain silos, the producers had difficulties purchasing the metal sheets in Fortaleza. SEBRAE found the needed material in Belém (1,500 km from Fortaleza) and purchased the supply for the associations. This type of intervention was particularly



helpful because on their own, the small firms would not have succeeded in bargaining with the large supplier. As a result of several such experiences, the producer-groups became less intimidated about negotiating with large suppliers. The fact that SEBRAE had interest in the PPP's good outcome was crucial for the evolution of the producer-groups.

This story has a lesson about performance. The two organizations had something to gain in the program which pressured them to perform well: SIC gained prestige, and SEBRAE found in the PPP an important source of resources to balance its budget.

#### Separating Purchasing from Program Monitoring

The purchasing agencies act like an additional monitoring system to ensure that the firms perform well. Most public agencies check prices and payment conditions with other suppliers in order to ensure that the contract with SIC represents a wise bargain. The state Agriculture Department, for example, decided to purchase grain silos from small firms not just because SIC had created the PPP, but rather because a market survey showed that buying from those firms represented an advantageous deal: better prices, good quality, guaranteed delivery in a short time. Officials of Agriculture Department did not really care about helping small firms to survive, but were interested solely in seeking favorable bargains for their own agencies. As the procurement director of the Department of Education said: "We only purchase from small firms because they charge lower prices and offer good quality, but at the moment they stop

doing that, we quit."

The main reason why PPP led firms to improve the quality of their items is that it distinguished the purchasing agencies from the selling agency. The selling agency (SIC) had to ensure high quality for the items in order to please the buying agencies which otherwise could purchase the items from other suppliers. Other demand-side programs implemented elsewhere do not usually make that clear distinction; a single agency performed both roles, purchasing from small firms and selling the items to consumers. As a result, the purchasing agencies do not typically face pressure to enforce quality requirements for the items purchased, and hence some of these programs ended up being clientelistic.

Nicaragua (Perez 1992) provides an example of the typical outcome of public procurement from small firms. When the Sandinistas came to power, the government, in an attempt to ensure availability of basic consumer goods (food, textiles, garments, and footwear), included small-scale firms in the new national industrial program. A small-scale industry program, implemented at the national scale, supported the formation of cooperatives of firms, provided extensive subsidies, and centralized the marketing of products and distribution of inputs to small firms. However, this program over-protected the firms from competitors by restricting imports and imposing no quality standards on local products. By emphasizing output goals, and buying anything regardless of quality, the program ended up leading firms to be too dependent on the state purchases. After the Sandinista government withdrew subsidies and discontinued the policy of centralized markets, many of the firms which had maintained a high

dependence on government failed (25% of small firms died between 1988-90) because they had not developed an independent business management capacity. Ironically, firms that had sold their products in private markets--and thus avoided dependence on state purchases--became stronger. They had developed quality and business management capacity, identifying markets and planning their production. These capacities allowed these firms to become more successful after the government abandoned the policy of market control.

In India, the government attempted to purchase household items, decorative objects, and personal accessories from informal firms, and sell them through a chain of government-run stores (Sanyal 1992). However, the strategy has not managed to enlarge the demand for the output of informal firms, but rather it created financial problems for the government-run stores. Since the rate of sale of those items is usually slow, the cost of holding inventories increases, creating an additional burden on the stores. Moreover, rather than involving manufacturing firms, most of the procurement consists of items produced by traditional artisans and fine craftsmen. In this sense, the program did not induce growth of small firm output, nor did it improve government's finances.

The case of Ceará PPP departs in important ways from most other demand-oriented programs. In contrast to the programs discussed above, the agency that implemented the Ceará PPP--SIC--is not the one that buys the items from small firms, but rather it acts as an intermediary/broker between the small firms and public agencies. SIC identifies the opportunities for small firms to sell to state agencies in the monthly

meetings with the governor and all other state departments, when state programs are discussed. Aware of the demands, SIC later notifies the agencies about the prices and conditions offered by small firms.

### Guarantee from Firms Rather than from Government

Guarantees of quality are often a problem when consumers buy products from small firms. Given that small firms often go out of business, clients may fear that if anything goes wrong with the product, they will not be able to find the firms from which they bought the merchandise. This is particularly relevant in the case of durable goods because, as the goods get older, the owners may need to replace some of its components and would need the manufacturer to supply the spare parts in order to repair the equipment. If the firm does not exist anymore, it may be hard to find equivalent spare parts.

Recognizing that guarantees play an important role in the consumer's decision, SIC together with the producers, arranged a guarantee for the items they produced. Each article had an identification metal plate containing the name of the manufacturer and the number of the contract. In the case of a defective item manufactured by a firm that has closed down, all the other producers which participated in the same contract have agreeded to perform the repair. This was one of the key advantages that SIC found in signing contracts with the firms' association, rather than with each producer individually.

The guarantee period varies according to the items. In the case of school

furniture, the producers give a year-long guarantee. For the silos and electrification poles, the guarantee lasts for three years. Experience has shown that the producers honor these guarantee, sometimes even after the legal period. For example, two years ago, the state Department of Education had kept around 2,000 items (desks, chairs and bookcases) in its deposit for more than a year. Most of the items had never been used, but because they were improperly stored, they got damaged. Even though the contract guarantee had passed, the firms sent workers to Fortaleza to fix whatever repair was needed (the Department of Education paid only for the bus tickets). They completed the service in one week. This impressed everybody in the Education Department, because even large firms, like the former suppliers, would not do the repair after the guarantee period had expired. Another remarkable example comes from the case of the silos. One small firm in Campos Sales gave an eight-year guarantee, rather than the regular three year term. And indeed, some local farmers informed me that they have silos manufactured by this firm which have been in use for more than ten years without a problem.

### The Rejection Phenomenon

In the PPP, the buying agencies controlled quality by rejecting items which did not meet the requirements established in the contract. After the order was ready, SEBRAE staff went to the sites where the firms were located in order to receive the items, making sure they would meet quality standards. In cases of rejection, SEBRAE requested that the firm replace the article promptly. Because requirements to replace

caused firms to run into losses, the firms became more careful and cognizant of quality. Indeed, at the start of the program, some producers did not believe that SIC or SEBRAE would get to the point of rejecting items, so they were not very concerned about meeting the strict quality standards written in their contracts. For instance, in the case of Fortaleza's school furniture contract, some producers tried to use improper wood, which was cheaper. Other firms failed to use the correct measures for the desk arm. In the case of grain silos, some producers failed to use the right type of solder. As SEBRAE rejected all these defective items, firms realized that they would have to be more prudent about quality control if they wanted to avoid the financial penalties. The fear of losing out on future government contracts also pushed firms to lower their rejection rates. Especially in the beginning, these contracts were very important for the small firms, because they could be as large as 20 times their usual orders, and they carried the advantage that firms obtained cash advances to buy raw materials and received technical assistance.

Technicians from SEBRAE reported that the rate of rejection for some contracts was as high as 15% when the agency first started to supervise small firms in the manufacture of items for public agencies. In the last two years, the rate has gone down to about 10%. This varies however, according to: (a) the type of item (desk, silos, leather boots, etc.) and (b) the group of producers (some have more skills than others). When the contract involves a new item, the percentage of rejection is higher at first. For example, two years ago, the state Department of Education introduced a new item in the contracts: a set of four small chairs and a square table for pre-school children.

The first time the firms manufactured these items, technicians from SEBRAE rejected about 15% of the items. More recently, the rate has gone down to around 10%.

As this example demonstrates, introducing new kinds of items in the orders has enabled the firms to go through a process of learning, which improves firms' production capacity. In another case, the same department recently started to order some wood toys for small children to use in public schools. I was not able to get any data about rejections in this case, but estimates from SEBRAE indicate that the rate tends to be higher than the rate for other more traditional items. Nevertheless, as time passes, and as firms develop their capacity to produce the new item, the rate of rejection is likely to decrease.

However, there are some exceptions to this pattern. In 1991, as a result of an exceptionally high agriculture yield, the state Department of Agriculture suddenly needed to distribute silos to small farmers, so that they could store the grain to sell later at better prices. In a meeting between the governor and all other state departments, SIC's director mentioned that he could mobilize small firms to manufacture the silos. The Department of Agriculture contracted SIC to organize the production.

Silos have to be completely sealed because even a slight hole can let beetles in and contaminate the grain. Technicians from SEBRAE had to check each silo and the percentage rejected was less than 10%. Not many firms were used to manufacturing silos, but the manufacturing process only required soldering technique. As a result, in only one month, 90 small firms had manufactured more than 20,000 silos which yielded them income of more than US \$600,000. Another interesting case is of a single firm

(six workers) from Campos Sales (about 600 km from Fortaleza), which produced more than 1,000 silos, and had not a single rejection. The owner of the firm involved even his wife to make the solder and, as his workshop was too small, he stored the silos in the street. This example illustrates how small firms have the ability to improvise, and quickly adapt themselves according to market trend's in order to grow and survive (Piore and Sabel 1984, Peattie 1985, Lipton 1980).

#### Up-grading Techniques and Reaching New Markets

Working for the PPP also helped several firms to diversify their client-base, besides upgrading their skills. In the process of adjusting to new ways of doing things, firms involved in the PPP upgraded their skills and their production processes. Ultimately, this progression and learning allowed firms to reach private markets, as they became able to produce high quality goods and services. Firms used the techniques they acquired by producing for public agencies, and applied these lessons in their day to day production for private markets. In the case of wooden furniture, identifying better woods and getting to know modern materials such as powerful glues, electric tools and high quality varnishes, were some of the advances the producers made in the process of producing for public agencies. That knowledge proved to be very useful in upgrading their production system.

The introduction of modern machines has also helped small firms to improve the quality of their products. Firms that have made significant profits from the PPP have used part of the gains to buy new equipment. For example, several sawmills purchased



machines to make more precise junctions (feathers) of two pieces of wood, ensuring tighter pieces, compared to hand-made ones. Previously, they did not have enough capital to buy such machines. Some firms have also bought electrical painting equipment that produces finer and more uniform coats.

In São João do Aruaru, almost 75% of the current 42 existing sawmills are now selling large volumes of items such as furniture for summer houses and hotels to diversified and demanding private customers from the state. As reports about the PPP appear often in local newspapers, this has helped the sawmills to acquire new customers. Formerly these sawmills could only sell to the local low-income market. The new items have modern designs and higher value, and the volume marketed is superior to that before. The reputation of São João do Aruaru's sawmills has transcended the state boundaries. Orders have started coming from other states; for example, the Department of Education of Paraíba, a neighboring state, which ordered 20,000 school desks in 1990.

In the case of services, small firms have also diversified their client-base as a result of working for the government. As they improve their techniques, several of them have started getting larger contracts from private groups. A tiny workshop which first started to fix electrical appliances (TV's, air conditioners, water fountains) for public schools, now has a license from a multinational manufacturer of electronic appliances in São Paulo (3,000 km away from Fortaleza) to repair their products. Given that these large firms use strict criteria to select their repair contractors, this is surprising.

For firms that did the repair services, prior to their participation in the PPP, their routine was to execute some trivial repairs for households, rather than handling a larger work for a public institution. The fact that they were able to do a good job repairing large state-owned buildings demonstrated to the public that these firms could also conduct larger contracts. Therefore, it is very significant that several of these firms are now engaged in larger services, a status that they could not expect before. For example, in the construction of two dams which will become the largest water reservoir in their areas, two large contractor firms (more than 1,000 workers) subcontracted small construction firms to work in parts of the construction of the barrages as a result of previous work in the repair of public schools.<sup>31</sup> In similar circumstances, many other small firms also got contracts from federal institutions, local administrations and other agencies like public banks (Bank of Brazil) located in the countryside. For instance, a federal agriculture technical school in Quixeramobim contracted a small repair firm that had previously worked for the PPP to repair and to enlarge the school building. The director of the school knew about the PPP by talking to school principals, and investigated the services before deciding to contract with the firm. In the past, this institution would have contracted with a larger construction firm instead.

#### Turning a Threat into an Opportunity

The fact that firms were able to diversify their markets comes in part from the instability of the public orders. Curiously, a point that could have been a threat to the

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<sup>31</sup> Fogareiro in Quixeramobim, and Cipoada in Morada Nova.

program--instability of public demand--ended up inducing firms to develop their business management capacity (e.g. finding new buyers, diversifying production). How did that happen?

When small firms in São João do Aruaru started to get contracts from the government, they established a relationship with private suppliers of inputs (e.g. laminated wood, varnish). These dealers agreed to give the producers a longer pay back period because of the large volume of their purchases. However, the continuity of that privilege was contingent upon constant big purchases. Firms needed to maintain the tie with the suppliers and that pressure induced the firms to keep constantly producing. Thus, achieving a new market became crucial for them.

Moreover, many firms had contracted additional workers to achieve the production volume to which they committed themselves in the contracts with the government. Orders from the Department of Education come only three times a year and firms take on average 45 days to manufacture the items. Firms could not just wait for the next government order, at the same time maintaining the workers and in many cases still making monthly payments for acquisition of new machinery. Clearly, given that most firms had expanded, they could not preserve their new capacity by exclusively selling to the state government. Therefore, firms had to seek new markets, and they diversified production as a strategy to survive.

The fact that the sawmills could diversify their production and find a new market was very important for them to survive and to grow. Private demand now absorbs around 70% of annual production and 60% of the sale value of the sawmills in

São João do Aruaru. Considering that most sawmills first emerged to produce for the government, it is significant that they have grown and diversified their production, because as Brown et al. (1990) suggests, small and young firms that come up to fill sudden demands such as in case of war, usually have a hard time surviving after that particular condition is over.

In that district, the producers now hire trucks to take their production to local weekly trade fairs such as the ones in Cascavel, Aracati, Ceasa, Baturité, Redenção, Pacajus and Maranguape, all within a radius of 150 kms. Every week, around three or four trucks leave the district taking items from 20 sawmills to the trade fairs. Data from the state electricity company (COELCE) show that the number of industrial consumers in São João do Aruaru, which are all sawmills, rose from four in 1987 to 42 in 1992 (data through July, 1992). The local association of producers estimates that people directly employed in the sawmills are now around 400, compared to less than 30 in 1987. In sum, despite the seasonality of government demand, I perceived in this case that the conditions under which the firms operated (e.g. the purchase of additional equipments, the input suppliers) put pressure on the firms to grow and seek new markets.

### The Trade Fairs

SIC played a major role in developing new, non-public sector markets for these firms. Starting in 1988, SIC and SEBRAE have established 11 big regional annual trade fairs, eight in the countryside (Sobral, Juazeiro do Norte, Ubajara, Limoeiro do

Norte, Crateús, Baturité, Quixadá e Iguatu) and three in the metropolitan area of Fortaleza. In 1991, over 100,000 people visited the fairs, and the 400 participating small firms sold US \$1 million in the regional fairs. Approximately 50% of the participating firms have taken part in these trade fairs since the first time SIC organized them. The trade fairs are major events in the towns, and local newspapers comment on them helping firms to become known in private markets. Held between July and November, when most stores are preparing their inventories for Christmas sales, the fairs have become part of the state tourist calendar.

SIC and SEBRAE have organized the trade fairs as a tourist attraction for visitors and dealers who come from everywhere in Ceará and from other states, including São Paulo, the largest Brazilian metropolis. Besides the colorful stands, the visitors can see groups performing traditional dances, comedians telling jokes, and other entertainment. SEBRAE often hires singers and musical groups to come and play popular songs. People in the town and nearby areas wait anxiously for the trade fairs which are opened at a ceremony, in the presence of the local mayor, directors of SIC, SEBRAE and some other public agencies. Occasionally, the governor participates in the inauguration.

The trade fairs occur in public gymnasias and most of the firms are manufacturers of garments, footwear, furniture, food, beverages, and ceramics, etc. Participating firms share all costs of the trade fair, except from those related to SEBRAE's service, which represents less than 5% of the total cost. SEBRAE rents the stands from a private firm and contracts with professionals to assist the firms in the decoration and illumination.

Marketing professionals from SEBRAE stay for the duration of the fair, assisting participating firms. SIC places state-wide advertisements on the radio, TV and newspapers, and mail invitations to dealers. SIC also arranges for the bank, telephone company, and a fast food company to put a branch in the area for the period the fairs last.

The opportunity to display their products to dealers and large consumers represents a unique opportunity for small firms. For example, a manager of a large store in Fortaleza attended one of these trade fairs and ordered 200 twin-size beds from one of the sawmills from Crato. This order represents the full-scale capacity of that firm for two months. The manager gave the design and other specifications (measures, type of wood, color of varnish, etc) to the firm and said the store would refuse every defective item. The firm had no problem in completing the order on time (three months) and has remained supplying that store for the last two years.

### Conclusion

In this chapter I explained that SIC had to push small firms to present high quality in order to convince other public agencies to buy from them. The facts that small firms could offer high quality standards, lower prices, and a repair guarantee were crucial to persuading public agencies to switch their procurement from large to small local firms. Two strong mechanisms of monitoring quality standards stand out in this story: (a) SIC/SEBRAE rejected imperfect items; and (b) client public agencies examined what other large suppliers could offer them in terms of price, quality and

guarantee to make sure their contract with small firms entailed a better deal before ordering from them. These pressures from the public agencies led the firms to improve their performance which in turn helped firms to achieve private markets. In the next chapter I will discuss how SIC managed to improve the performance of small firms.

## CHAPTER FIVE

### TECHNICAL ASSISTANCE AND ASSOCIATIONS OF FIRMS

#### ENSURING GOOD PERFORMANCE

In the PPP, SEBRAE needed specific technical assistance that could bring about efficiency for the firms. The technical assistance that was crucial to PPP, differed in important ways from the type of assistance that SIC and SEBRAE had previously provided in Ceará. I will discuss here why the traditional technical assistance was not effective and why a different type of technical assistance worked well in the PPP. I will also explain how and why the association of firms worked as an extra monitoring mechanism to ensure good performance.

#### Shop-floor Based Technical Assistance

NUTEC and SEBRAE, were in charge of providing technical and managerial assistance, respectively, to small and medium firms since 1980.<sup>32</sup> These agencies have a year-long calendar of nearly 200 different courses on assorted subjects ranging from fixing computers to bakery techniques. The courses are not specifically targeted to firms involved in the PPP. In most cases, engineers from these agencies have a pre-defined agenda for the course, which they reproduce in different regions of the state. The courses are either free of charge or subsidized, and the classes can hold up to 20 people including workers and owners of firms.

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<sup>32</sup> Recently SEBRAE has taken over technical assistance in the PPP from NUTEC.



In my discussions with engineers involved in these courses, as well as with owners of small firms, I could identify some problems in the way the agencies implement the courses. First, as the course agenda remains almost the same for every group of people, the approach rarely allows the instructors to meet specific demands from individual groups. For example, a typical course for the food processing industry uses electrical appliances. Yet since some small food processing firms operate in remote areas where electricity has not arrived, the information in the course is therefore useless to them. Secondly, in most cases, the instructor teaches the course in a classroom located at the agency office or in some other public building. The classrooms have the basic equipment, so that the instructors can show appropriate procedures and techniques. But, ironically, the classrooms do not look like a typical small firm. The rooms lack the elementary constraints the firms face daily, such as crude equipment, crowding, and energy problems. Therefore, the trainees have little chance to use the lessons they learn in their routine work because of the gap between the classroom and the firms where they work.

The need to ensure quality for the products in the PPP required a close supervision of the firms' production process. This pressure forced SIC to modify previous methods of delivering technical assistance. Rather than following the traditional model of delivering general technical knowledge and open-ended lessons, which did not necessarily deal with actual problems faced by firms, technical assistance in the PPP took a different institutional form; engineers prepared the producers for situations that they were actually struggling with in order to satisfy the market. Under

this new model, the engineers went to the workshops and, together with the producers, they were able to solve some frustrating problems. For example, in the case of silos, some firms had difficulties with the soldering process. Getting this process right was central to ensuring a perfect seal, and the engineers suggested a more effective way to make the solder. This strategic technical assistance enabled the producers to improve the quality of their products.<sup>33</sup> One civil engineer, who was supervising the manufacturing of school desks, said that it was only during one of his visits to a sawmill, that he learned how the producers stored the timber. Because the wood did not have any protection from rain or humidity, it did not dry properly. As a result, the pieces of cut wood cracked easily, not because of the kind of wood used, but because of poor storage. Prior to this finding, engineers had assisted the sawmills with other related issues (e.g. design of the items, selection of wood), but drying techniques were never specifically targeted. From then on, drying became a strong concern for the technical assistance routine.

Apart from introducing small producers to new raw materials, SIC engineers taught them and their workers new techniques, such as a different way to sandpaper the wood in order to get better results. Producers could apply this knowledge to all their products irrespective of whether they were made for the government agencies or not. In the case of electric utility poles and grain silos, the producers had to learn to make a different type of solder, and to use a different kind of metal, which they also adopted in

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<sup>33</sup> Tandler (1991) describes an analogous case in agriculture projects in Northeast Brazil where focused technical assistance together with temporary subsidized credit helped small farmers, in a short period of time, to substitute traditional varieties to new ones resistant to plagues.

their routine practice. In the case of services as well, small firms learned modern products and techniques. For example, for making water-proof ceilings, they learned from the engineers how to use a product made of oil; to build courtyards that do not crack with concentrated sunlight, they now use a plastic material in the concrete. As a result, by working for public agencies, small firms upgraded their skills, which proved to be essential for them to acquire private clients and expand their production.

In São João do Aruaru, the firms had no sense of how to organize the production, and engineers helped advising them on appropriate patterns for subdividing the labor into an assembly line. The engineers analyzed the whole manufacturing process to come up with a model which each firm adapted to its own features, according to their number of workers and level of production.

The fact that the producers were concentrated in a particular area in São João do Aruaru was also important for making technical assistance more effective. Being close to each other encouraged the producers to get together and discuss their common problems and then push the engineers to work on these issues. In fact, the technicians appreciated this because it made their task easier. They liked the fact that the producers themselves could tell them in advance what the bottlenecks in manufacturing were; that way they were able to concentrate on those specific points, prepare themselves beforehand, and then propose the solutions.<sup>34</sup>

This focused technical assistance represented a remarkable change in Ceará. In

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<sup>34</sup> Damiani (1993) describes a similar phenomenon in a study about small farmer associations in Santana, Ceará. There the extension agents work more effectively because they receive from farmers, weeks in advance, a list of problems to work on. Agents have time to prepare their agenda and later come back with the proposed solutions.

the past, technical assistance had neither been so close to the producers, nor had it tried to meet clients' requirements because: a) SIC did not have an specific client to please; b) SIC did not face any sense of urgency to improve firms' production process. In contrast, in the PPP the technicians had a large government order with specific requirements and a timetable to meet. Thus, the technical assistance had to keep pace with the whole manufacturing process, and this pressed SIC to concentrate the efforts of the technicians on specific groups of firms, and on particular orders.

#### More on Disciplining Firms: The Role of The Associations

In the PPP, SEBRAE encouraged the firms to form associations as a way to reach many firms yet deal with one simple body. In order to avoid the cost and difficulties of monitoring several individual contracts, SEBRAE contracts with a group of firms, which must have their own association.<sup>35</sup> For example, the sawmills of São João do Aruaru formed their association in 1987 basically as a result of that requirement.

After contracting with the association, SEBRAE will only make the final payment (the supplementary 50%) when the association had accomplished the entire order, which requires that every producer must have finished his share in that order. That requirement enforces a sense of mutual pressure. Having that in mind, members of the associations decide to distribute the orders among the producers according to

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<sup>35</sup> SEBRAE had spent the last four years encouraging small enterprises of any type to get together in associations for two basic reasons: a) to rationalize its assistance to small firms, as the agency was facing an increasing demand for its services, due to the optimistic atmosphere for opening small business from 1986 to 1987, a period when the Brazilian economy was doing well; b) to organize the firms, so that they could act effectively as a lobby for their interests, such as increases of interest rate.

each one's capacity which includes skills, machinery, and previous performance in other contracts, in order to avoid delays.<sup>36</sup>

This way of making payment contingent upon group, rather than individual, performance enforced a strong discipline among members of the associations. As the payment is contingent on collective delivery, that constraint forces the members of the association to be very careful about selecting the firms that will participate in the contract. As time has passed, associations have come to know which firms are more "reliable". The more efficient producers often refuse to work with those who have a reputation of delaying the order. For example in Sobral, members of the association of sawmills refused twice to take part in a contract together with a producer who failed to meet the deadline in a previous contract. The third time, the laggard producer accepted a minimum share in the contract and delivered his part on time.

The associations themselves have benefitted from the PPP because that program reinforced their role. The strongest association of furniture manufacturers, the one in São João do Aruaru, has now built its own building, which the current 42 members use for meetings and to lodge the purchase bureau with its stock of raw material (lumber, laminated wood, varnish, etc). The building is a place where the producers meet almost every night. People in the area say that the members of the association have the building as "their church," meaning that members have developed the habit of going there every day. They go there to discuss different issues like local politics and to

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<sup>36</sup> Similar experiences around the world have shown that the sense of mutual responsibility enforces discipline. In the case of the Grameen Bank in Bangladesh (Biggs et al. 1990, Tandler 1989, Sanyal 1988, 1992), a few people who get a loan together are co-responsible to make the repayments, every week, in order to qualify for following loans. Ashe (1985) reports a similar phenomenon in the solidarity groups in San Salvador where a sense of mutual coercion started to operate among the producers who jointly get loans.

socialize. They feel pleased that they now have this place where they can meet with each other, something they did not do often before. Whenever one member wants to talk to another, as they often do after worktime, the association building is now the place to go first to look. Attending these informal night meetings has served more than a social purpose, however. It is during these meetings that the producers share information about opportunities to purchase second hand equipment from each other, which they often do. The office of the association serves as a recruiting ground because job-seekers, knowing that owners of the sawmills frequent the place almost every night, go there in order to find a work in the sawmills. The producers get information about other firms, such as their need for extra workers, who they have hired, and their production pace. This has worked as a monitoring system when they are working for a public contract.

Members of that association have elected a purchasing commission to acquire raw materials (timber, laminated wood, varnish, sandpaper, glues, etc) in bulk to get better deals. They now negotiate directly with the dealers, and have been able to get good prices and large pay-back periods, which the dealers do not usually concede to small producers. The association usually makes the purchases in Fortaleza, pays for all expenses related to the trip, and then sells to individual producers in São João do Aruaru at a 10% premium, while still keeping the final price 15% below the market level. (Members have agreed that the money saved from the difference should be used to build an office for the association in the district.) This new process of purchasing the inputs represents a significant change for these firms, because before the association

each firm used to buy its own material separately, with more difficulties and at higher prices. To control the distribution of the material, the association selected and hired a person who knows how to write and can perform simple calculations.

A process of informal learning takes place continuously. In one case a producer bought a router (machine to execute tongue and grooves), a tool most of them had never had in their workshop. For several nights, some producers and workers came to the workshop where the new machine was being installed, to examine its features, observe it functioning, see how it could be fixed in case of damage, and actually learn about its operation.

Producers also often discuss ways to prevent frequent sawmill accidents. Even though I was not able to get any data for this event, in my field observation I noticed the disproportional number of injured people living there. Almost every family has a member who has had an accident working in the saw-mills; they may have lost one or more fingers, a hand, an arm, or even an entire leg. Given that problem, discussions and the exchange of experience about how to prevent or how to reduce work accidents are very helpful, and the meetings in the associations are a useful way to involve members in that concern. São João's producers are now trying to push SEBRAE to arrange for an expert on work security, to come to the district and talk to them about ways of dealing with the problem.

Belonging to the associations has helped members to act unitedly to solve eventual problems with suppliers. Once a producer bought an entire truck of wood from a dealer who said he was a representative of a wood wholesaler in the Amazon.

When the wood arrived, the producer realized that the material was of very bad quality, different from the one he had ordered, and could not be used. The producers jointly threatened the dealer arguing that they would not ever buy anything from him if he did not replace the wood with the type the firm had actually ordered. Ultimately, the dealer replaced part of the material, but even so the producers now use more caution when purchasing wood from that supplier.

### Conclusion

The need to satisfy the client agencies and the commitment to meet the deadline forced SIC and SEBRAE to review previous ways of delivering technical assistance. In contrast to the traditional open-ended technical assistance in the PPP, SEBRAE provided narrow, focused and shop-floor based technical assistance to ensure firms performed well. The contract with the associations, as opposed to with the firms individually, worked as an additional mechanism to ensure good performance because members of the association participating in the same contract put pressure on each other to ensure quality and punctuality. Finally, the PPP reinforced the role of the associations which have generated additional benefits to their members.



## **CHAPTER SIX**

### **OVERCOMING THE RESISTANCE**

When public agencies switched their procurement toward small firms, they faced strong opposition from former large suppliers. In the case of school desks, the state Department of Education had been one of the most important clients for some of these large firms for years. In this chapter I will discuss how SIC managed to face the opposition from former state suppliers of goods and services. I argue that the achievements of the PPP in terms of saving money for the state government and improving public purchases associated the PPP with public austerity, which was crucial for SIC to get public support for the program. In addition, some items, such as the repair of public buildings, had characteristics that did not encourage massive opposition from the larger firms.

#### **Making Allies**

Reaction against the PPP came initially from FIEC, the state industrial federation, which is an alliance of the 26 existing associations of local industries. FIEC said frequently that the state industrial policy should put more emphasis on large firms, rather than on small firms. To strengthen support for the PPP, SIC convinced FIEC to include on its board a representative of small firms, arguing that small firms formed the majority of the industrial firms (85% of the total 7,000 industrial firms), and that one of the main points of the Ceará industrial policy during Jereissati's administration focused

on promoting small business. Thereafter, FIEC could not oppose the PPP, as it had attempted before, because it could not oppose one of its own members. It was crucial for SIC to offset opposition from FIEC, because the organization held a lot of power within the state.<sup>37</sup>

Two large firms located in the state of Paraná (3,500 km from Fortaleza) used to manufacture 80% of the state's purchases of school desks. Local representatives of these firms had negotiated these purchases with the state Department of Education for more than ten years. These local dealers received 15% of the total value of the purchases as a sale commission. Moreover, civil servants from the state Department of Education said that these dealers used to profit not only from the commission, but also from charging unusually high prices for the items; dealers often paid bribes to officials in charge of the procurement to induce them to agree to the higher prices. Not surprisingly, the introduction of competition by SIC led to a loss of business for these local dealers. As a consequence, they lobbied hard against the PPP.

Local dealers, such as the former suppliers of school desks, put pressure on the state government, particularly on SIC, to quit enabling small firms to market to public agencies. In order to persuade the state Department of Education to stop procuring from small firms, local dealers tried to convince the school principals and officials from this Department that the school desks produced by the small firms were not good because they were made out of wood which caused them to be heavy and hard to transport from one place to another. These large suppliers also argued to the officials

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<sup>37</sup> FIEC was one of the first institutions to support Jereissati in his campaign for governor, in 1986. In Jereissati's term, FIEC succeeded in proposing nominations of four, out of the ten directors of state departments.

who were in charge of buying the desks that small firms would not be able to deliver large orders on time. Occasionally, they tried to persuade the governor in private meetings to change the policy of supporting small firms and to replace the director of SIC, in an attempt to discontinue the PPP.

In addition to attempting to persuade the governor to discontinue the PPP, these dealers also induced--by paying bribes--officials from the state Department of Education to delay the payments, or to argue legal errors in the contracts (such as not having called public biddings). An official from SIC complained: "many times when we thought we were ready to receive the payment of the contract, some impediment suddenly appeared."

To grapple against the former suppliers and their threats, SIC put the owners of small firms and the local politicians (mayors, councilmen) to press the governor to preserve the PPP, a strategy that Fox (1986) has called the "sandwich strategy."<sup>38</sup> Pressures from the producers (from below) and from the politicians (from above) helped to protect the PPP. The producers from the municipios involved in the PPP explained to local mayors how that program was important for them and their employees. In turn, mayors from municipios either pressured deputies to force the government to maintain the PPP, or they themselves went directly to SIC--or even to the governor--to stress their support of the PPP. This way, for every new round of intimidation from the previous suppliers, the chain of supporters formed by politicians and leaders impressed the governor by stressing how firm their endorsement was of the PPP.

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<sup>38</sup> Fox (1986) defines "sandwich strategy" as a "pressure on government agencies, both from within the state from above, and from outside the state from below."

However, the PPP gained strong political support from mayors and local leaders because of the positive impact it had caused on firms in their regions. These politicians perceived that in future political campaigns, they could claim the PPP as an accomplishment in part from their own efforts. Because of that, local politicians from about 30 municípios pressured the deputies, senators and even the governor to maintain (or to activate) the PPP in their municípios. The PPP improved people's morale because even if they were not currently working in the firms, they valued the possibility of future jobs for themselves or for members of their families as a result of the PPP initiatives. As the PPP developed, it got strong political support from the local people in all municípios involved. In part, SIC aided to that recognition by heavily publicizing the PPP's achievements on TV, radio, posters and newspapers. Advertisements claimed that the PPP "turns public procurement democratic," enables the state to save money, and thus "represents a measure of austerity and morality."

### Selecting the Targets

SIC also preserved itself by strategically choosing projects which were not threatening to local large firms. By using the sandwich strategy, SIC managed to stay out the struggle, and did not expose itself directly to those who were opposing the PPP. Instead of being itself the natural target, SIC put new actors on the scene to defend the PPP: the owners of small firms, their leaderships, and their close politicians. In the meantime, the director of SIC was able to preserve itself and maintain the PPP. I suggest that several reasons contributed to SIC's accomplishment.

First, in the case of school desks, most of them had been produced before by firms located outside the state. As a result, part of the opposition against the PPP did not come from local elites, but rather from industries located far away from the state, which could not fight intensively with the state government against the PPP. Furthermore, the governor did not feel obligated to satisfy them or to acquiesce to their claims because they did not have solid political roots in Ceará; the state government did not consider them having enough political weight to influence its decisions about the PPP.

Second, in the case of services, the repair contracts were normally small-budget projects (averaging US \$5,000), and were widely dispersed throughout the state, making them unattractive to medium or large firms. Almost all repair contracts involved small services such as building outside walls, sidewalks, water boxes, electric illumination, installing gates, and fixing the roofs of schools. The larger firms were interested in big construction jobs such as roads, dams, buildings, bridges, etc. Also, the size of the services, did not encourage large firms to mobilize its employees and move its equipment to different locations. Moreover, as the contracts involved dispersed buildings, they did not allow any significant economies of scale for large firms. For example, about 20% of the contracts included embankments, a job for which large firms normally use tractors. As these firms could not count on other nearby contracts to use the same tractor, thereby paying off its transportation cost, the PPP job did not attract them. In general, it turned out not to be profitable for larger firms to get involved in the repair of public buildings because that it did not compensate their high operational

costs, such as transporting equipment, engineers, and workers.

### Conclusion

In this chapter I explained SIC's strategy to protect the PPP from the opposition from former state suppliers of goods and services. To the population, SIC argued that the PPP enabled the state government to save money, to eliminate corruption in the public procurement, and to improve the quality of the items it purchased. To reduce the opposition from FIEC, which would be a major threat for the PPP, SIC convinced the federation to include a representative from the small firms on FIEC's board. To face the opposition from former suppliers, as happened intensively in the case of school desks, SIC mobilized the owners of small firms and the local politicians to confront them. Moreover, two major factors contributed to diminish the opposition against the PPP: (a) most of the former suppliers were located outside the state, which allowed the government to stress its support to local producers; (b) the services contracts involved widely dispersed small-budget jobs in which the larger firms were not interested because of their high operational costs.

## **CHAPTER SEVEN**

### **CONCLUSIONS**

The state of Ceará was able to implement the PPP in a time of fiscal stringency, while simultaneously reducing its expenses. Rather than requiring additional resources from the government, the PPP enabled the state government to save approximately US \$4 million in the last five years. This story reveals seven main lessons about how policy makers should think about supporting small firms.

First, the fact that the state demanded quality goods and paid market prices, forced firms to improve their products and to become efficient. Firms had to adapt their production according to the clients' requirements, and even had to give a one-year guarantee for the items they manufactured. This is an unusual phenomenon in small firm programs, which seldom have mechanisms to discipline firms. Why did it happen? Because the agency that implemented the PPP (SIC) was not the same one that bought the items (other state departments). SIC therefore had to convince skeptical clients to buy from the firms, and this unique factor resulted in two important points: (a) the agency had to be selective with the items produced, rather than accepting everything regardless of quality, because otherwise the purchasing agencies would discontinue their orders; and (b) because firms had to improve the quality of their items and, at the same time, charge low prices, the PPP helped firms to better compete in the private market. Firms thereby diversified their production, and reached new clients.

Second, the pressure to please the client forced SIC and SEBRAE to develop a

very focused technical assistance. This contrasted with the open-ended distant relationships that these agencies had previously used. In the PPP, the technical assistance assumed a demand-oriented style, working around a particular order, linking producers and technicians, who were both interested in getting the order right.

Third, I highlight that the PPP required extraordinary commitment and motivation from the state government, SIC, SEBRAE, and the firms. However, all four actors had clear incentives to pursue good performance. The state government saved, rather than spent money; SIC gained prestige; SEBRAE gained 20% of its budget from the PPP; and the small firms expanded their market frontiers, and strengthened their technical skills. So many interests together generated enough vigor to counteract strong pressures from suppliers and officials who lost their customary privileges.

Fourth, this case refutes the conventional criticism claiming that because government demand is unstable, it is not feasible to use government procurement for the purpose of fostering development of firms. In the case of Ceará, this instability of government orders was not a problem. Indeed, the fact that the government demand was seasonal forced firms to diversify their production and acquire new markets, preventing firms from becoming dependent on public purchases. Their own accomplishments in the PPP--largely publicized by SIC--helped these firms to become known and made it easier for them to reach new private clients. The PPP helped the producers become known as efficient, responsible, and qualified, an image that encouraged potential clients to negotiate with small firms.

Fifth, the system of contracting orders also contributed to effectively disciplining



firms. The fact that SIC signed contracts only with associations, as opposed to individual firms, created the conditions for a mechanism of social pressure for good performance. It forced the members of the associations to use a more professional way to select partners for a new contract: producers who had not done well in previous contracts tended to be left out in the next round. This threat reinforced the pressure on the firms to perform well. Additionally, the public contracts strengthened the associations, which could then provide additional benefits for the members, such as buying raw material in bulk and therefore being able to acquire them at lower prices.

Sixth, this case exemplifies specific ways in which the resistance against such programs can be overcome. On the one hand, SIC was able to associate the PPP with ideas of austerity and public morality because of the lower prices and high quality offered by small firms. On the other hand, some items involved in the PPP had characteristics that discouraged a stronger resistance from larger firms. These characteristics are as follow:

(a) In the case of goods, most of the items were not formerly manufactured by local firms. This was a strategic choice by the PPP because former suppliers located outside the state did not have significant political links with the state government, who was sponsoring the PPP. The state government could then disregard their opposition because they were neither state taxpayers, nor political allies.

(b) In the case of the repair of public buildings, the contracts involved budgets that were too small to take anything away from large firms that might have protested--larger firms were more interested in construction, rather than in repairs. Furthermore, the repairs were very dispersed throughout the state, which did not allow economies of

scale for large firms. Individual budgets of the services were not sufficient to compensate the high mobilization cost of large firms, as they use heavy equipment, qualified professional (engineers, architects, etc.), and in addition have high overhead costs.

Lastly, I found that in specific situations, the PPP could be very effective in fostering second order effects, which have contributed to the expansion of the local economy. For example, concentrating the purchases of wooden furniture in São João do Aruaru caused the number of firms to grow dramatically there, and the agglomeration of firms generated linkages that stimulated the local economy. Besides the agglomeration, the PPP also caused such an impressive impact in São João do Aruaru because the program attempted to develop an activity that was already there. The PPP found in that district an ideal place to operate: skills, tradition, and locally available raw material. In sum, São João do Aruaru had already important ingredients to develop the wood activity. The only missing ingredients were larger markets and greater organization which the PPP successfully brought.

In conclusion, this case study reveals that public procurement can play an important role in supporting small firms, if properly designed and managed. Therefore, I recommend that planners concerned with development policies consider using strategic government purchases to foster development of small firms. The evidence of this case suggests that to be effective and to accomplish great impact, such programs have to: pay attention to quality, target an economic activity that already exists in a certain area, and concentrate the purchases in these particular areas.

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